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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.                   | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------------------------|------------------|
| 10/666,634   | 09/17/2003  | Amr Hassan O'Baid    | 844,004-301                           | 8973             |
| 34263  | 7590        | 02/16/2007           |                                       |                  |
| O'MELVENY & MYERS LLP<br>610 NEWPORT CENTER DRIVE<br>17TH FLOOR<br>NEWPORT BEACH, CA 92660 |             |                      | EXAMINER<br>DOERRLER, WILLIAM CHARLES |                  |
|  |             |                      | ART UNIT                              | PAPER NUMBER     |
|  |             |                      | 3744                                  |                  |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 02/16/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/666,634

**Applicant(s)**

O'BAID ET AL.

**Examiner**

William C. Doerrler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-12 and 25-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12 and 25-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed 1-29-2004 and 2-17-2005 fail to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The US and Foreign references from all the IDS forms have been considered. The Scharen article is not in the file, so it has not been considered. The Lewis article from the 2-17-05 IDS is not in the file, but a different article by Lewis et al from a different Journal is in the file, but has not been cited.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4,6-12 and 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chase (either 6,331,498 or 6,112,526) in view of Zapach et al. Chase discloses applicants' basic inventive concept, a receiver 16 for telecommunications with a Stirling cryocooler 22 to cool the receiver having a high temperature superconductor filter with the cryocooler having a heat rejector 30 with is thermally coupled to a finned heat exchanger 34 through heat pipes 28 (stainless steel tubes with ammonia used as the refrigerant), substantially as claimed with the exception of specifying how the heat pipes are fastened to the heat rejector, or specifying the materials used for the rejector. Zapach et al show c-shaped recesses which when combined encircle the heat pipe to be known in the heat pipe to heat rejector fastening art. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of Zapach et al to modify the cryocooled receiver of Chase by using c-shaped recesses to mount the heatpipes to ensure high surface area for the heat transfer. In regard to the specific material for the heat rejector, Official Notice is taken that copper is well known as a relatively inexpensive material with high thermal conductivity and is commonly used for heat exchangers and as such would have been an obvious modification for an ordinary practitioner in the art. In regard to claims 6-10, the positioning of the device is not seen to change the functioning of the

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device in any way, so it is considered obvious that an ordinary practitioner in the art would consider the device of Chase for any indoor or outdoor use that requires the cooling of electronic devices to cryogenic temperatures. In regard to claims 28 and 29, it is noted that both references show 90 degree turns in the heat pipe. In regard to claim 31, Zapach shows vertical heat transfer fins.

### ***Conclusion***

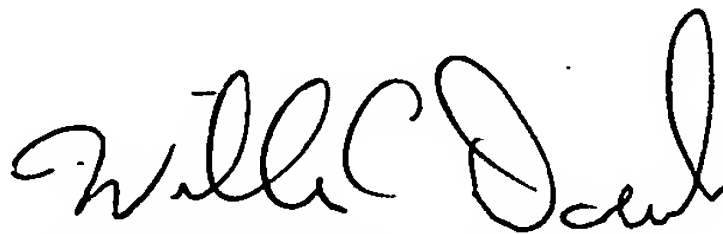
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hutchison shows a finned heat exchanger which is thermally coupled to a heat generating component through a plurality of heat pipes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William C Doerrler  
Primary Examiner  
Art Unit 3744

WCD